

PATENT
54008.8012.US01
P96-0015US2

COMPLETE SET OF PENDING CLAIMS

1-97. (Cancelled)

98. (Previously Presented) A method for cleaning a semiconductor wafer comprising:

- (a) rotating a wafer in a processing chamber;
- (b) spraying a surface of the wafer with a heated aqueous solution to form a thin aqueous film thereon and simultaneously providing ozone gas into the processing chamber in an amount sufficient to create an oxidizing effect on the surface of the wafer to oxidize contaminants thereon; and
- (c) removing oxidized contaminants from the surface thereof.

99. (Previously Presented) A method as defined in claim 98 wherein the aqueous solution is water.

100. (Previously Presented) A method as defined in claim 98 wherein the aqueous solution contains an acid.

101. (Cancelled)

102. (Previously Presented) A method as defined in claim 98 wherein the aqueous solution is adjusted to a temperature sufficient to effect oxidation on the surface of the wafer.

PATENT
54008.8012.US01
P96-0015US2

103. (Previously Presented) A method as defined in claim 98 wherein the contaminants are removed by rinsing.

104. (Previously Presented) A method as defined in claim 98 wherein the ozone is injected into the processing chamber.

105. (Previously Presented) A method as defined in claim 98 wherein the ozone is admixed with a carrier gas.

106. (Previously Presented) A method as defined in claim 105 wherein the carrier gas is selected from the group consisting of oxygen, nitrogen, air and inert gas.

107-118. (Cancelled)

119. (Previously Presented) The method of claim 98 wherein the ozone is provided as a gas around the semiconductor wafer.

120. (Previously Presented) The method of claim 98 wherein the ozone is provided in an ozone/liquid solution.

121. (Previously Presented) The method of claim 98 wherein the ozone/liquid solution is supplied separately from the heated aqueous solution.

PATENT
54008.8012.US01
P96-0015US2

122. (Previously Presented) A method for cleaning organic material from a surface of a workpiece comprising:

- (a) spraying a heated aqueous solution onto the surface of the workpiece and simultaneously contacting the surface with ozone to effect oxidation of the organic materials on the surface of the workpiece to oxidize the contaminants; and
- (b) removing oxidized contaminants from the surface.

123. (Previously Presented) The method of claim 122 wherein the aqueous solution comprises water.

124. (Previously Presented) The method of claim 122 wherein the aqueous solution comprises an acid.

125. (Previously Presented) The method of claim 122 wherein the aqueous solution forms a thin aqueous film on the surface of the workpiece.

126. (Previously Presented) The method of claim 122 wherein the organic material comprises a photoresist.

127. (Previously Presented) A method for cleaning an organic material off of a surface of a semiconductor article comprising:

placing the article into a processing chamber;

PATENT
54008.8012.US01
P96-0015US2

spraying the surface of the article with a heated aqueous solution, while simultaneously contacting the surface of the article with ozone in an amount sufficient to oxidize the organic material;

removing the oxidized organic material from the surface of the article; and

removing the article from the processing chamber without performing a separate rinsing step.

128. (Previously Presented) The method of claim 127 further including the step of rotating the article.

129. (Previously Presented) The method of claim 127 wherein the aqueous solution and the ozone are sprayed onto the surface of the article in solution form.

130. (Previously Presented) The method of claim 127 wherein the aqueous solution is heated to a temperature between 50° C and 90° C.